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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,995	01/22/2004	John Moon	CV-0054	8238

7590 05/12/2005
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EXAMINER

LAVARIAS, ARNEL C

ART UNIT PAPER NUMBER

2872

DATE MAILED: 05/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SM

Office Action Summary	Application No.	Applicant(s)	
	10/763,995	MOON, JOHN ET AL.	
	Examiner	Art Unit	
	Amel C. Lavarias	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/23/04, 1/22/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/23/04, 1/22/04 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. The Applicants' claim for domestic priority under 35 U.S.C. 120 is acknowledged and accepted.

Drawings

2. The drawings were received on 8/23/04 and 1/22/04. These drawings are objected to for the following reason(s) as set forth below.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

Figure 3- Reference numeral 48

Figure 8- Reference numeral 801

Figure 9- Reference numerals 134, 136

Figure 13- Reference numeral 89

Figure 15- Reference numeral 321

Figure 23- Reference numeral 630

Figure 33e- Reference numeral 576

Figure 36- Reference numeral 514

Figure 38- Reference numerals 212, 214, 216, 218

Figure 40- Reference numerals 682, 686

Figure 41- Reference numerals 211, 681, 683, 697, 699

Figure 50(b)- Reference numerals 1206, 1208.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

Figure 9- Reference numerals 26, 32, 86, 88, 90

Figure 10- Reference numeral 203

Figure 33- Reference numeral 560

Figure 39- Reference numeral 302

Figure 47- Reference numerals 712, 714.

5. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within *the range of 50 to 150 words*. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the

Art Unit: 2872

disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

7. The abstract of the disclosure is objected to because of the following informalities:

Abstract is too long.

Abstract, line 5- 'The are' should read 'The beads are'.

Correction is required. See MPEP § 608.01(b).

8. The disclosure is objected to because of the following informalities:

Page 1, lines 16-17; Page 18, lines 22-23- appropriate publication serial numbers should be supplied

Page 3, line 25- delete line

Page 7, lines 11-16- it is unclear which of the two figure descriptions is associated with Figure 8

Page 16, line 29- insert 'be' after 'may'

Page 18, line 2- after 'and', 'not' should read 'no'

Page 19, lines 10, 17- '811' should read '812'

Page 20, line 9- both instances of '802' should read '806'

Page 20, line 10- '802' should read '804'

Page 20, line 14- '10' should read '8'

Page 20, line 24- 'probed' should read 'probes'

Art Unit: 2872

Page 21, line 10- it is unclear what document is being cited here since no corresponding document is recited elsewhere in the specification or in a previously submitted information disclosure statement

Page 23, lines 9-10- the same US6383754 document is cited twice for two different documents

Page 24, line 4- 'The' should read 'the

Page 32, line 10- '705' should read '704'

Page 32, line 16- 'undefracted' should read 'undiffracted'

Page 35, line 19- '452' should read '454'

Page 43, line 23- 'holy' should read 'holey'

Page 44, line 1- 'fig. 3(a)' should read 'Fig. 3(a)'.

Appropriate correction is required.

Claim Objections

9. Claim 11 is objected to because of the following informalities:

Claim 11 recites the limitation "...said substrate has a grating region where said grating and...". It is believed that this limitation is incomplete. The Examiner has taken this limitation to mean "...said substrate has a grating region where said grating *is located* and...".

Appropriate correction is required.

Double Patenting

Art Unit: 2872

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1-19 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 20-155 of copending Application No. 10/661031 (See pending Claims 20-155 of 10/661031 filed 2/7/05 and 3/7/05). Although the conflicting claims are not identical, they are not patentably distinct from each other because copending Application No. 10/661031 similarly recites an optical identification element/microparticle attached to a chemical and a method of performing a multiplexed experiment (See Claims 20, 58, 96, 116, 136 of 10/661031), both comprising (obtaining) an optical substrate; at least a portion of the substrate having at least one diffraction grating disposed therein, the grating having at least one refractive index pitch superimposed at a common location; the grating providing an output signal when illuminated by an incident light signal; the optical signal being indicative of a code in the substrate; and the chemical being attached to the substrate. Copending Application No. 10/661031 further recites the substrate being made of glass (See for example Claim 23 of 10/661031); the code comprising a plurality of bits (See for

example Claim 24 of 10/661031); the number of pitches being indicative of the number of bits in the code (See for example Claims 27-30 of 10/661031); the substrate having a length less than about 500 microns (See for example Claim 37 of 10/661031); the substrate having a cylindrical shape (See for example Claim 46 of 10/661031); the grating being a blazed grating (See for example Claim 53 of 10/661031); the code comprising a plurality of bits, each bit having a plurality of states (See for example Claim 26 of 10/661031); the substrate having a reflective coating disposed thereon (See for example Claim 39 of 10/661031); the substrate having a magnetic or electric charge polarization (See for example Claim 42 of 10/661031); the substrate having a grating region where the grating is located and a non-grating region where the grating is not located (See for example Claim 47 of 10/661031); and the substrate having a plurality of grating regions (See for example Claim 47 of 10/661031); the substrate having a geometry having holes therein (See for example Claim 43 of 10/661031); the substrate having a geometry having protruding sections (See for example Claim 43 of 10/661031); at least a portion of the substrate having an end cross section geometry (See for example Claim 44 of 10/661031); at least a portion of the substrate having a side view geometry (See for example Claim 45 of 10/661031); at least a portion of the substrate having a 3-D shape (See for example Claim 46 of 10/661031); and the code comprising at least a predetermined number of bits (See for example Claim 25 of 10/661031).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

12. Claims 1-19 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-19 of copending Application No. 10/661234 in view of Frankel (U.S. Patent No. 6096496).

Claims 1-19 of copending Application No. 10/661234 identically discloses the limitation of Claims 1-19 of the instant application, except for the optical identification element being attached to a chemical, the chemical being attached to the substrate. However, the attachment of an unidentified chemical to an identification element in conventional biological assay systems is well known and conventional in the art. For example, Frankel teaches an optical identification element/microparticle (See Figures 1, 8-15, 17) having a chemical attached thereto (See for example Figure 1B; Figure 19; col. 32, line 62-col. 34, line 22) comprising an optical substrate (See 190, 125, 160 in Figure 1A); at least a portion of the substrate having at least one diffraction grating disposed therein (See for example 902a-f in Figure 9; 1003a-f in Figure 10; 1103a-f in Figure 11; 1204a-f in Figure 12; 1401a-e in Figure 14; 1506a-i in Figure 15), the grating having at least one refractive index pitch superimposed at a common location (it is noted that features appear as a variation of refractive index that alternates between the refractive indices of the materials comprising the grating); the grating providing an output optical signal indicative of a code (See 180 in Figure 1A; col. 11, line 44-col. 12, line 43) when illuminated by an incident light signal (See 170 in Figure 1A), and the chemical being attached to at least a portion of the substrate. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the optical identification element/microparticle and method of copending Application No.

Art Unit: 2872

10/661234, be attached to a chemical, the chemical being attached to the substrate, as taught by Frankel, to further extend the capabilities and functionality of the optical identification element/microparticle and method by allowing for binding and identification only of very specific chemicals.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 1, 11, 14-15, 18-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Grot et al. (U.S. Patent No. 6005691).

Grot et al. discloses an optical identification element/microparticle (See Figures 3A, 3B, 5A, 5B) having a chemical (See 117 in Figure 3B; col. 4, line 48-col. 5, line 37; col. 7, line 50-col. 8, line 22) attached thereto, the element/microparticle comprising an optical substrate (See 109 in Figure 3B); at least a portion of the substrate having at least one diffraction grating disposed therein (See 111 in Figure 3B), the grating having at least one refractive index pitch superimposed at a common location (it is noted that features 111 appear as a variation of refractive index that alternates between the refractive index of substrate 109 and the refractive index of 117 when taken along a line parallel to the substrate surface, located in the plane of Figure 3B, and drawn bisecting

Art Unit: 2872

the grating structure 111); the grating providing an output optical signal indicative of a code (See 215, 221, 223 in Figure 5A; col. 8, line 23-col. 10, line 48) in the substrate when illuminated by an incident light signal, the chemical being attached to the substrate. Grot et al. additionally discloses the substrate having an end cross section geometry and a side view geometry that are both rectangular (See Figure 3A); and the substrate having a grating region where the grating is located and a non-grating region where the grating is not located at, and the substrate has a plurality of grating regions (See Figure 3A). Further, Grot et al. discloses a method for performing a multiplexed experiment (See Figures 3A, 3B, 5A, 5B) comprising obtaining an optical substrate (See 109 in Figure 3B) at least a portion of which having a diffraction grating (See 111 in Figure 3B) with one or more refractive index pitches superimposed at a common location (it is noted that features 111 appear as a variation of refractive index that alternates between the refractive index of substrate 109 and the refractive index of 117 when taken along a line parallel to the substrate surface, located in the plane of Figure 3B, and drawn bisecting the grating structure 111); attaching a chemical to the substrate (See 117 in Figure 3B; col. 4, line 48-col. 5, line 37; col. 7, line 50-col. 8, line 22); and illuminating the substrate with incident light (See for example 201 in Figure 5A), the substrate providing an output light signal (See 221, 223 in Figure 5A); reading the output light signal and detecting a code therefrom (See 211, 213 in Figure 5A).

15. Claims 1-3, 5, 8-9, 11, 13-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Frankel.

Frankel discloses an optical identification element/microparticle (See Figures 1, 8-15, 17) having a chemical attached thereto (See for example Figure 1B; Figure 19; col. 32, line 62-col. 34, line 22), comprising an optical substrate (See 190, 125, 160 in Figure 1A); at least a portion of the substrate having at least one diffraction grating disposed therein (See for example 902a-f in Figure 9; 1003a-f in Figure 10; 1103a-f in Figure 11; 1204a-f in Figure 12; 1401a-e in Figure 14; 1506a-i in Figure 15), the grating having at least one refractive index pitch superimposed at a common location (it is noted that features appear as a variation of refractive index that alternates between the refractive indices of the materials comprising the grating); the grating providing an output optical signal indicative of a code (See 180 in Figure 1A; col. 11, line 44-col. 12, line 43) in the substrate when illuminated by an incident light signal (See 170 in Figure 1A); and the chemical being attached to the substrate. Frankel additionally discloses the substrate being made of glass (See col. 11, lines 27-43); the code comprising a plurality of bits, numbering for example 4 or 20 (See col. 11, line 44-col. 12, line 43), each bit having a plurality of states (See also Figures 1A-B; 9-12, 14-15, 17); the dimensions of the bead, and hence the substrate, being less than 2 mm (See col. 6, lines 65-67); the substrate having a reflective coating disposed thereon (See for example 904a-f in Figure 9); the substrate having protruding sections (See for example Figures 9-12; 17); the substrate having an end and side view geometry that are circular or elliptical (See for example Figures 1A-B); a portion of the substrate having a 3-D shape of a cube with unequal sides or a sphere with nonuniform diameter (See for example 160, 190 in Figures 1A-B); and the substrate having a grating region where the grating is located and a non-grating region

where the grating is not located (See for example Figures 9-12; 14-15; 17); the substrate having a plurality of grating regions (See for example Figures 9-12; 14-15; 17). Further, Frankel discloses a method for performing a multiplexed experiment (See Figures 1, 8-15, 17-20) comprising obtaining an optical substrate (See 190, 125, 160 in Figure 1A; Figures 18-20) at least a portion of which having a diffraction grating (See for example 902a-f in Figure 9; 1003a-f in Figure 10; 1103a-f in Figure 11; 1204a-f in Figure 12; 1401a-e in Figure 14; 1506a-i in Figure 15; Figures 18-20) with one or more refractive index pitches superimposed at a common location (it is noted that features appear as a variation of refractive index that alternates between the refractive indices of the materials comprising the grating); attaching a chemical to the substrate (See for example Figure 1B; Figure 19; col. 32, line 62-col. 34, line 22); and illuminating the substrate with incident light (See for example 1801 in Figure 18), the substrate providing an output light signal (See output light routed through element 1803 in Figure 18); reading the output light signal and detecting a code therefrom (See 1804, 1805, 1806 in Figure 18).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Frankel in view of Ravkin et al. (U.S. Patent Application Publication US 2003/0129654 A1).

Frankel discloses the invention as set forth above in Claim 1, except for the number of pitches being indicative of the number of bits in the code. However, Ravkin et al. teaches conventional coded particles for analysis of samples (See for example Abstract; Figures 1, 12-25, 33-40; 48-51), wherein the coded particle may take on the shape (See Paragraphs 0114-0121) of, for example, a disk (i.e. a flattened cylinder) (See Figures 18-19), a sphere (See Figure 20), or an elongated cylinder (See for example Figures 17, 24, 38). Also, the number of bits in the code imparted on the particle may be based on the number of distinctly different gratings on the particle (See Paragraphs 0092-0107; 0318-0405). In particular, Ravkin et al. teaches the use of diffraction-grating based features for coding the particles (See Paragraphs 0318-0405; Figures 33-51), wherein the pitches or groove spacings of the various diffraction grating features may be varied to provide distinct measurable optical property for the different bits in the code (See for example Figures 34-50, wherein various regions of the identification element have diffraction gratings of distinct groove spacing.). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the number of pitches being indicative of the number of bits in the code, as taught by Ravkin et al., in the optical identification element/microparticle of Frankel, for the purpose of simplifying detection of the particular code (i.e. diffracted light from the particle) and reducing the time taken to correlate the diffracted light from a particular identification element to a particular code.

18. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Frankel in view of Ravkin et al.

Frankel discloses the invention as set forth above in Claim 1, except for the substrate having a cylindrical shape. However, the use of cylindrical shaped substrates in such identification element applications is conventional in the art. For example Ravkin et al. teaches conventional coded particles for analysis of samples (See for example Abstract; Figures 1, 12-24, 33-40; 48-51), wherein the coded particle may take on the shape (See Paragraphs 0114-0121) of, for example, a disk (i.e. a flattened cylinder) (See Figures 18-19), a sphere (See Figure 20), or an elongated cylinder (See for example Figures 17, 24, 38). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the substrate of the optical identification element/microparticle of Frankel have a cylindrical shape, as taught by Ravkin et al., to simplify analysis in particular detection applications, such as flow-based or static detection.

19. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Frankel.

Frankel discloses the invention as set forth above in Claim 1, except for the grating being a blazed grating. However, as is known in the art, blazed gratings are a particular class of diffraction gratings in which the geometry of the grooves are manipulated to control to the variation and magnitude of the diffracted light. One skilled in the art would have known to utilize a blazed grating for the diffraction grating due to the advantages provided by blazed gratings, i.e. enhanced diffraction efficiency in particular diffraction orders. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the grating in the optical identification element/microparticle of Frankel be a blazed grating, for the purpose of enhancing the

diffraction efficiency of the diffraction grating, thus increasing the signal-to-noise ratio of the detected optical signal.

20. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Frankel in view of Yguerabide et al. (U.S. Patent No. 6214560).

Frankel discloses the invention as set forth above in Claim 1, except for the substrate having a magnetic or electric charge polarization. However, constructing the bead out of a material having a magnetic or electric charge polarization is well known in the art. For example, Yguerabide et al. teaches a method and apparatus for detecting one or more analytes by detecting the light scattered from the particles after the analytes have associated with the particles (See for example Abstract; Figures 21-24, 28-30). In particular, the particles are made of a material having electric or magnetic polarization to allow them to be oriented in the presence of an applied electric or magnetic field (See col. 12, lines 5-43; col. 40, lines 44-65; col. 88, line 24-col. 89, liner 20). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the substrate having a magnetic or electric charge polarization, as taught by Yguerabide et al., in the optical identification element/microparticle of Frankel, for the purpose of facilitating or optimizing readout of the codes in the element/particle by proper alignment of the element/particle.

21. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Frankel in view of Ravkin et al.

Frankel discloses the invention as set forth above in Claim 1, except for the substrate having a geometry having holes therein. However, Ravkin et al. teaches conventional

Art Unit: 2872

coded particles for analysis of samples (See for example Abstract; Figures 1, 12-25, 33-40; 48-51), wherein the coded particle may take on the shape (See Paragraphs 0114-0121) of, for example, a disk (i.e. a flattened cylinder) (See Figures 18-19), a sphere (See Figure 20), or an elongated cylinder (See for example Figures 17, 24, 38). In particular, Ravkin et al. teaches that the substrate of the optical identification element/microparticle may include various surface features, including grooves, ridges, holes, bumps, depressions, dimples, etc. (See Paragraphs 0129-0135). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the substrate of the optical identification element/microparticle of Frankel have a geometry having holes therein, as taught by Ravkin et al., to facilitate sample and reagent association and retention and particle manipulation during the assay process.

Conclusion

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 571-272-2315. The examiner can normally be reached on M-F 9:30 AM - 6 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2872

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Arnel C. Lavarias
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Group Art Unit 2872
5/8/05